

of the illustrious anatomist and discoverer. Together with this volume there was also put into the sarcophagus a memorial bottle cased in lead and containing various details relating to the removal. The bottle included views of the church, before and after the fall of the tower, executed on wood; a description of the church and the vault, and the time the remains had been in the vault; several photographic views of the church; a beautiful photograph of the bust of Harvey; a scroll of vellum on which was engraved a description of the reasons why the remains had been put into the marble, with the names of all who had taken part in the ceremony; and a printed account of the proceedings that were carried out at the second interment on October 18th, 1883. The sarcophagus was then finally closed by rolling on and cementing down the massive cover or lid. On the western side of the sarcophagus is engraved the following:—

THE REMAINS OF WILLIAM HARVEY,
DISCOVERER OF THE CIRCULATION OF THE BLOOD,
WERE REVERENTIALLY PLACED IN THIS SARCOPHAGUS
BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON
IN THE YEAR 1883.

At the foot are inscribed the words,

WILLIAM HARVEY.
BORN 1578. DIED 1657.

NOTES

WE are glad to learn that M. Dumas is much better, though it is probable he will have to spend the winter in the south of France.

THE arrangements for beginning work at Ben Nevis Observatory will be completed this week, and Mr. Omond will take up his post on the summit in the middle of next week, when observations will be at once begun. The telegraph cable has now been completely laid.

THE Fisheries Exhibition was closed yesterday with much ceremony; its success as a popular exhibition is almost unprecedented, and, as we have pointed out in several articles, some of the exhibits have been of real scientific value.

WE regret to announce the death, last Saturday, of M. Breguet, the well known electrician, member of the French Institute and of the Bureau des Longitudes. M. Breguet's second son, a promising electrician, died about twelve months ago, and was deeply regretted. The death of M. Breguet has been all the more noticed that a few days ago the death of M. Niaudet-Breguet, his nephew, was announced. M. Niaudet-Breguet was also devoted to electricity. The well-known Breguet firm will not be extinguished by these multifarious losses, having been made lately a joint stock company. It is one of the oldest in Paris, having been established in 1783.

THE arrangements for the International Forestry Exhibition which is to be held in Edinburgh next year have been settled. The classification of the exhibits ranges over a wide and interesting field. Practical forestry will be illustrated by implements, models of huts, appliances for floating and transporting timber, and wood-working machinery of every description. The department of forest produce will include a collection of the chief uses to which the raw and the manufactured material of the woods may be applied. The class of scientific forestry will deal with the botany of the forests, forest entomology, preservative processes applied to timber, fossil plants, parasites, and numerous other subjects. Growing specimens of rare and ornamental trees and shrubs, rustic work in arbours, bridges, gates, and seats, and dried specimens of ornamental objects will exemplify the

division of ornamental forestry. The remaining departments will include pictorial illustrations of the trees, foliage, and scenery of all countries, and the effects of blight, accident, parasitic growth, and abnormal conditions, together with the literature of forestry, working plans of plantations, and examples of the economic condition of foresters and woodmen. The entries for the Exhibition will close on October 4, 1884.

LAST Thursday, October 28, the three classes of the French Institute held their annual meeting. The addresses were delivered this year by the members of other classes than the Academy of Sciences. In the evening the members of the Institute held a great banquet by subscription among themselves. This is the first time that the annual meeting has been so solemnised.

THE seventh International Geodetic Conference terminated its labours on October 24, when the acting president, Col. Ferrero, proclaimed the result of the new election of the permanent committee, as follows:—Lieut.-General Ibanez, Director-General of the Geographical and Statistical Institute, Madrid, President; Col. Ferrero, President of the Italian Geodetic Commission, Vice-President; and Dr. Hirsch, Director of the Observatory at Neuchâtel, and Dr. von Oppolzer, Professor of Astronomy at the University of Vienna, Secretaries. Prof. Bauernfeind read his report on refraction, which was followed by a proposal, made by Major Hartl, and approved, to the effect that the Conference expressed a hope that all the European States represented in the Association would institute thorough investigations into terrestrial refraction, in order to ascertain the influences which the different characteristics of the ground and of the climate exercise upon refraction. Prof. Schiaparelli, Director of the Observatory at Milan, read the report of the special committee named to consider the proposal made by Prof. Fergola regarding systematic observations of latitude, with the intent of verifying the stability of the terrestrial axis of rotation, and ascertaining the movements of the poles; which report, after some discussion regarding the manner in which the observations should be carried out, was approved.

BARON NORDENSKJÖLD has, in consequence of the attacks which have been made in foreign journals in connection with the unfortunate *Djmphna* expedition, on his theory as to the navigability of the Kara Sea, telegraphed to Lieut. Hovgaard inquiring whether he considered it would have been possible to reach the Yenisei this summer. Lieut. Hovgaard replied that he was fully convinced that had he been prepared to proceed he could easily have reached Siberia this autumn, and further points out that he could have done so last year also had he not, by signals of distress from the *Varna*, been compelled to leave the lead along the shore of the Waigatz Island, which was open as far as the eye could reach, and enter the pack ice where he was frozen in.

IN No. 3, vol. vi. of the *Deutsche Geographische Blätter* is an article by Prof. Börgen, in which he discusses the objects proposed and the theories entertained by Nordenskjöld in connection with his expedition to Greenland. The paper was written before the expedition left. Dr. Börgen adduces some particulars which make him incline to the supposition that the watershed of Greenland lies rather towards the east than the west. In any case, in consideration of the comparatively short distance of any part of Greenland from the sea, and of its low average temperature, Dr. Börgen argues that winds both from the east and the west must deposit snow everywhere on the weather side of the mountains against which they strike, and so maintain the conditions for the formation of glaciers. These glaciers, again, must in the course of time drift down into the valleys and the lowest levels, the temperature of Greenland even down to the level of the sea

being everywhere below the freezing-point. This view is further supported by ascertained facts and by conclusions drawn from the direction of the winds, as given in Coffin's work, "The Winds of the Globe." The article in other respects communicates important details and arguments regarding the geography of Greenland.

THE Association Internationale Africaine has been so satisfied with the services of the Swedish officers who assist Mr. Stanley in his exploits on the Congo, that four more, who have volunteered their services, have been engaged, and will leave Europe on November 15. We announced some time back that the Royal Geographical Society of Sweden had conferred the *Vega* medal, the greatest honour at the disposal of the Society, on Mr. Stanley. At the last meeting of the Society the President, Dr. Montelius, read a letter received from the explorer, dated Stanley Pool, in which he thanked the Society for the great honour conferred on him.

THE last number of the *Izvestia* of the East Siberian Geographical Society contains a valuable paper by MM. Agapitoff and Khalganoff, on the Shamanism of the Balagansk Buriats of the province of Irkutsk; several letters from the Lena Meteorological Station (already noticed in NATURE), with a plan of the station; meteorological observations made at Markha in August and September, 1882, and at Magan (ten miles to the north-west of Yakutsk), from July, 1882, to March, 1883; and a paper on the settlements of the 14,000 Chinese, Manchous, and Dahours, who have remained under Chinese rule, although settled on the left bank of the Amur, at and below its confluence with the Zeya. We notice in this paper that during the three great summer inundations of 1881, the level of water in the Amur, one mile wide at this place, and the Zeya 1·3 mile wide, rose as much as 19 feet in a few days, and that the whole change of level of the Amur was, during the summer, as much as 28 feet. This figure, although much below those which are found for the Amur below its confluence with the Sungari, and exceeded during the inundations of 1872, gives some idea of the mass of water poured on the Pacific slope of the great Siberian plateau during the season of the summer rains.

AN interesting relic of the past has just been unearthed in the parish of Pulborough, Sussex, in the shape of a canoe, which was partly embedded under the River Arun, and partly in land on the south side of that river. The boat is of solid oak, and hewn from a single massive trunk. That it was made before the knowledge of metal is evident, as there is not a trace of building or planking. It must have been hollowed by means of the stone axe and of fire. Further evidence in favour of the antiquity of this boat appears to be afforded by the various accumulations which had formed over that portion of it which was embedded in the earth. These strata, to the depth of nine feet, have been ascertained to be loam, yellow clay, a thin layer of leaves, followed by a stratum of blue mud, beneath which lay the boat embedded in drift sand. The prow portion of the boat lay in the river, and this is by far the most dilapidated. The stern is comparatively intact. The present dimensions of the boat are fifteen feet by four feet; but originally it was probably eighteen feet long.

ON Monday, September 24, about 9 p.m., a remarkable phenomenon occurred at Käringsön, in the province of Bohus, Sweden. During a perfect calm a violent whirlwind suddenly arose from the south-east, carrying with it a quantity of sand, earth, and straw, when suddenly a bright light lit up every object and made the night as clear as day. This was caused by a magnificent meteor, egg-shaped in form, which appeared in the zenith, and which at first seemed to consist of myriads of large sparks, gradually changing into a star shining with a blinding

lustre, and which burst, with all the colours of the rainbow, in the north-west, four to five metres above the horizon. When the meteor had disappeared the wind suddenly fell, and it was again perfectly calm. The phenomenon lasted about sixty seconds. The wind had throughout the day been south and very slight.

DR. MEYER asks us to state that in our note on his paper on jadeite the name *Montevideo* should be *Monteviso*, and he thinks it better, to avoid misunderstanding, to use *jadeite* instead of *jade*. Moreover, the material from Monteviso is only doubtfully jadeite. At Suckow, Uckermark, only one piece was found, but this is the fourth "in North Germany." "At the same time," Dr. Meyer writes, "I take the liberty of drawing the attention of your readers to Prof. Arzruni's recently-published paper on the jade question in the Berlin *Zeitschrift für Ethnologie*, pp. 163-190. The mineralogist of Breslau comes to the same conclusion as myself, *i.e.* that the raw materials were *not* imported from Asia; and the chief reason upon which he relies is that he found the nephrite and jadeite varieties from the different localities to possess *typical* microscopical differences. This alone would suffice to put aside the importation hypothesis. I discovered last September in Graz, Styria, a boulder of nephrite from the alluvium of the river Mur, and shall soon send you a separate copy of the paper which I am about to publish on the same."

A PALÆOLITHIC implement of large size was found a week or two ago by Mr. G. F. Lawrence, of 49, Beech Street, in gravel excavated in the Clerkenwell Road, near the Sessions House. The implement weighs 1 lb. 3 oz., and is slightly larger than the historical implement found near Gray's Inn Lane at the close of the seventeenth century, and now in the British Museum.

A SHARP shock of earthquake was felt at Bermuda on October 20, but no damage was done. A shock was felt at Tashkend at twenty minutes past two on the morning of the 27th, accompanied by loud subterranean rumblings. A despatch from Smyrna dated October 28 reports that the wall surrounding the town, the Aqueduct, and the Hadji Hussein Mosque have been damaged by an earthquake. The minaret and dome of the Hadji Ali Mosque at Capan Vourla have also been injured. At the last-named town one hundred and sixty-nine persons have been seriously, and sixty-one slightly, hurt. Seventy-nine wounded people are in the hospitals.

A ROMAN city has been discovered in Tunis by Lieut. Massenat, who lately accomplished a scientific mission in the vicinity of Bograra (Gulf of Gabes). This city is said to be located in the southern part of Djerba. The circuit of the ruins is about three kilometres.

AN extraordinary case of subsidence has been observed in the vicinity of Bone. The Naiba, an isolated mountain of 800 metres altitude, is gradually descending into the bosom of the earth. A deep excavation has been made all round, encircling the whole engulfed mass.

WITH reference to our notice of "The Fishes of Great Britain and Ireland," last week (p. 611), Mr. Day wishes us to state that the work will be in two volumes, and that the parts published reach to p. 176 of the second volume.

THE additions to the Zoological Society's Gardens during the past week include a Striped Hyæna (*Hyæna striata*) from Morocco, presented by Mr. Ernest H. Marquis; a Common Squirrel (*Sciurus vulgaris*), British, presented by Mrs. M. J. Mitchison; a Black Rat (*Mus rattus*), British, presented by Mr. Camp; a Laughing Kingfisher (*Dacelo gigantea*) from Australia, presented by Mr. S. J. W. Colman; a Kestrel (*Tinnunculus alau-*

darius), British, presented by Mr. T. E. Gunn; two Pintails (*Dasila acuta*), two Wigeons (*Marca penelope*), European, presented by Mr. Charles E. Boulton; a Margined Tortoise (*Testudo marginata*) from the Ionian Isles, presented by Miss Mansell; a Purple-faced Monkey (*Semnopithecus leucoprymnus* ♀) from Ceylon, a Pinche Monkey (*Midas edipus*) from Brazil, two Common Marmosets (*Hapale jacchus*) from South-East Brazil, deposited; a Chimpanzee (*Anthropopithecus troglodytes* ♂), a Chimpanzee (*Anthropopithecus calvus*? ♀) from West Africa, a Chipping Squirrel (*Tamias striata*) from North America, two Bramblings (*Fringilla montifringilla*), European, purchased; two Simon's Dwarf Jerboas (*Dipodillus simoni*) from Arabia, received in exchange; six Long-nosed Vipers (*Vipera ammodytes*), born in the Gardens.

BIOLOGICAL NOTES

OBSERVATIONS ON THE EMBRYOLOGY OF THE TELEOSTS, by J. S. Kingsley and H. W. Conn. The observations were made during the summers of 1881 and 1882 at the Summer Laboratory of the Boston Society of Natural History at Annisquam, Mass., on the egg development of *Ctenolabrus coruleus*. The eggs were obtained by surface skimming, and were usually equally abundant during the day and in the evening, and as a rule were more so on the flow than on the ebb of the tide. Half an hour's skimming would produce on an average 150 eggs. These eggs all floated at or near the surface of the water, and presented a marked contrast to those of either an Elasmobranch, Batrachian, Reptile, or Bird, in that the germinative portion is invariably downward or on the lower surface of the egg, while the deutoplasm is uppermost. The stages observed were: the maturation of the ovum, the phenomena of segmentation until the formation of the germ layers, the formation of the three primary layers, the segmentation cavity, the invagination of the hypoblast, and the appearance of nuclei in the intermediary layer of Van Bambeke, the formation of the notochord and neural cords, the former arising from the hypoblast at first as a longitudinal median thickening of that layer, and subsequently becoming segmented off and taking its place among the mesoblastic tissues, the development of the optic bulbs and protovertebræ.

EMBRYOLOGICAL MONOGRAPHS.—Under this title Prof. Alexander Agassiz proposes to issue a series of selections from embryological monographs, so as to give the student in an easily accessible form a more or less complete iconography of the embryology of each important group of the animal kingdom. It is not intended that these monographs should be handbooks to the subject, but rather act as atlases to accompany any general work on the subject. The plates will be issued in parts, each part covering a somewhat limited field, and occasional appendices may be published to prevent the plates from becoming antiquated. The illustrations will be accompanied by carefully prepared explanations, and by a bibliography of the subject in octavo. This work, planned out in 1873, has only now been matured. The first part is on the embryology of Crustacea, with fourteen plates, edited by Walter Faxon. The figures on these plates are taken from all the most reliable sources, and an important volume of bibliography accompanies the atlas. The parts devoted to Echinoderms, Acalephs, and Polyps are well advanced, and it is intended to figure the phenomena connected with fecundation and maturation and the history of the formation of the embryonic layers in a separate part, without regard to the systematic zoological connection of the observations.

CERATODUS FORSTERI.—Mr. Morton got twelve specimens of this fish in the Mary River, Queensland, one only in a net; all the others were trapped by the blacks by being forced through a narrow passage in the river formed by a kind of brushwood. He noticed a curious circumstance as regards their habits. At the time of his visit a number of Eucalyptus trees were in full flower by the banks of the river, and as the blossoms dropped into the water they were eagerly seized and swallowed by these fish. The stomachs of each of the specimens captured were literally crammed with these flowers. An old resident told Mr. Morton that during June to August these fish go in pairs, that they make slight indentations in the muddy bottom in from six to ten feet of water, in which the spawn is deposited, that the male and female fish

remain near the spawn, and are not then easily disturbed, that they frequent the same place every year, and that the spawn is frog-like. He had taken it and hatched it in a tub of water, keeping the young alive for some weeks. (W. Macleay in *Proc. Linn. Soc. New South Wales*, vol. viii. part 2, July 17, 1883).

GLYCOGEN was lately found by M. Errera in fungi of the order Ascomycetes (before, it had only been observed in the animal kingdom and in Myxomycetes, organisms which naturalists have placed, sometimes among animals, sometimes among plants). Continuing his researches, he now finds the substance (*Bull. Belg. Acad.*, No. 11, 1882), not only in Ascomycetes, but in many Mucorineæ, such as *Phycomyces nitens*, *Mucor mucado*, and *stolonifer*, *Pilobolus crystallinus*, *Chaetocladium Jonsii*, *Piptocephalis Freseniana*, *Synecephalis nodosa*. He has specially studied *Phycomyces nitens*, the large size of which is an advantage. In it the glycogen does not occur in localised masses, as in the *Asci* of Ascomycetes. When the mycelium filaments are young it is distributed throughout the protoplasm; later it is carried to the top of the cell which is destined to give rise to the sporangium. Its quantity does not diminish notably during formation of the sporangium, so it does not seem to have a preponderant rôle in growth of the membrane. It is found in the spores, and probably another portion serves for respiratory combustion; the rest may be utilised for growth of membranes of the sporangium-filament and the spores. Having got 40 grammes of dried *Phycomyces*, M. Errera extracted glycogen with all its reactions, confirming the results of micro-chemical analysis.

MARINE ZOOLOGICAL LABORATORIES¹

[THE following communication has been forwarded to us by an eminent biologist, with the request that it be reproduced in our pages:]—

Nearly all the European States except England have on their sea-coast marine zoological laboratories; it may therefore, especially in view of the recent proposals of Prof. Lankester, and the manifesto of biologists which has followed it, perhaps be interesting to your readers to peruse the following description of these laboratories; they will then be able to appreciate their utility, indeed absolute necessity, in order to study or pursue investigations in certain branches of science.

These seaside laboratories, or *stations zoologiques maritimes*, have nearly all been founded by zoologists for the purpose of advancing zoological science. Fortunately they also help both students and scientists in other branches of science than that of zoology, the one to arrive at a proficiency of knowledge, the other to carry out interesting and valuable researches which, but for this brotherly help, would be impossible. The countless species of marine animals attract physiologists, histologists, and comparative anatomists to work in a field which may reveal facts hitherto undiscovered in that more limited area which is included in the study of terrestrial and fresh-water animals.

The success of these laboratories is doubtless increased by the fact that they are always in a healthy locality on a bracing seashore, so as to allow a realisation of the apparently anomalous combination of work and rest. The scientist, worn out by fatiguing researches made in town laboratories, finds fresh elements of health and a fresh field for research by passing three or four months at a seaside laboratory.

The first of this class of laboratory is the one founded at Naples by Herr Dohrn, a private enterprise almost exclusively German, which nevertheless has received substantial aid from the city of Naples, and some years hence will become the town property.

In order to work in the Naples laboratory a heavy fee is exacted. Nearly all the tables are retained yearly by different universities or scientific societies; the British Association has two tables. The revenue is greatly increased by the fees of admission to an aquarium of marine animals.

This laboratory is admirably organised; there is an agreement between the authorities and the fishermen that the latter shall take to the laboratory all rare animals that they may chance to find; likewise there is every necessary arrangement for dredging excursions and for diving into the depths of the sea to find such animals as are required for study. There are several sailing boats and a steamboat belonging to the laboratory, which is also

¹ From the *British Medical Journal*, October 13, "Special Correspondence, Paris."